

N°1181 / OC

TOPIC(s) : Life cycle and environmental assessment

Esprit de VELOX, a Zero-Impact Vessel for Responsible Research and Innovation

AUTHORS

François FREY / PROGRAMME ESPRIT DE VELOX, 1 RUE JEAN TORLAIS, LA ROCHELLE

PURPOSE OF THE ABSTRACT

The Esprit de VELOX Programme has been developing a unique vessel, dedicated to research and preservation operations, open to Collaborative Intelligence and Embedded Collaborative Research & Development, available to the research and innovation communities. Pioneering at sea non-invasive and interdisciplinary marine research; understanding and preserving the Earth System, the programme shares and spreads the results and research of all its contributors.

Recreating the ideal conditions for pioneering scientific exploration. With 42 people aboard, Esprit de VELOX will be able to access all the world's oceans. Embarked Zero-Impact Renewable Energy production technologies will give the ship autonomy from tropical to polar navigation zones, using the most up-to-date instrumentation for observation, measurement, sampling and analysis; both close inshore and to a depth of 10 000 feet.

In keeping with our collective commitments, we develop an approach that implements and improves reachable possibilities from today: transporting and working without impact on the ocean and on the climate, understanding and innovating together.

Long established dogmas throw necessary ruptures a little further every day, while our minimized or denied impacts seem to accelerate and amplify effects: warmed and disrupted climate, major biodiversity collapse, well-real climate migration...

We've been listening and understanding merging scientific needs to create a generation of offshore working platforms that would fit our times' challenges:

- . studying the Earth System from the inside out,
- . disturbing less and less the Ocean and its biodiversity,
- . collating the collective knowledge on board, in a largely shortened time scale, well beyond the boundaries that freezes both disciplines and time while passing information from one circle to another.

The environmental neutrality of the ship is a key asset, which will allow works as precise and complex as those of cellular ethology and molecular analysis, under conditions similar to those of the laboratory on land without disturbing the ecological environment.

This is something to give the younger generations the desire of a preserved ocean and the taste to discover, understand and protect it!

The global technological fields of the programme concerned are in particular:

- . Naval architecture and efficiency of maritime transport,
- . Smart Grid and autonomous networks,
- . EMR onboard,
- . Energy storage,
- . Digitization and enhanced operations,
- . Composite, bio-inspired and bio-sourced materials.

Outside the Box of the traditional structure of an R&D program supported by an industrialist, the Fonds de Dotation 1.618 operates as initiator and owner of a program designed as a third place where the needs of maritime research resonate with the innovation capacities of the industrialists and the associated research

organizations which, co-opted around the program by the participants themselves, develop together concrete solutions that they will then carry, individually or together, to the markets of Maritime Industries and Transport. The programme has been able to develop since 2014 on the basis of the broad networks, commitment and skills of its leading team in the fields of research, energy, naval architecture and European collaborative engineering. In particular, gradually consolidated by the power of industrial R & D. At this stage of the development of a visible program that wishes to maintain its unparalleled global leadership (sources: DG Innovation and Research, the European Commission, and the Intergovernmental Oceanographic Commission of UNESCO), it is important to us to find additional financial resources that will enable to launch the detailed design and then on the construction of the ship on private funds from sponsorship. This way, the ship could be launched in late 2021 / beginning of 2022.

FIGURES

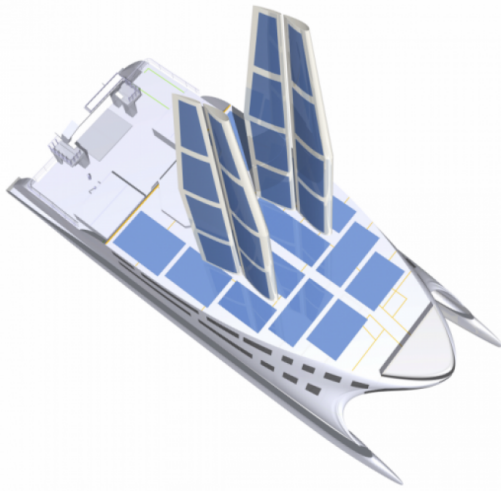


FIGURE 1
FIGURE 1.
Esprit de VELOX
Environmental neutral and bio-inspired Research
Vessel

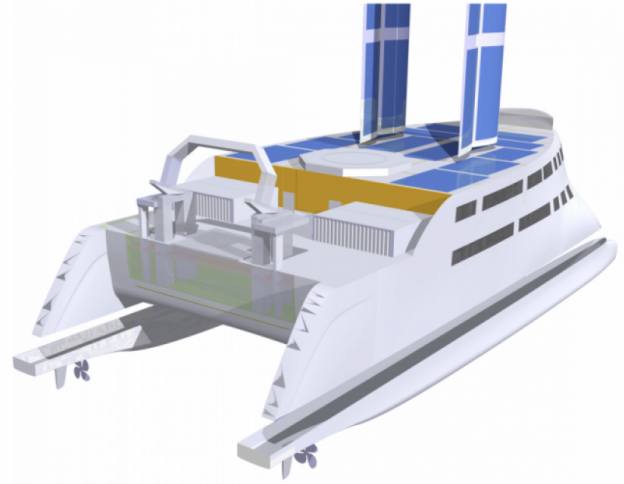


FIGURE 2
FIGURE 2.
Esprit de VELOX
Environmental neutral and bio-inspired Research
Vessel

KEYWORDS

BIBLIOGRAPHY